

## Patent Claims

1. Polymer dispersion having a low viscosity, comprising
  - 5 A) at least one dispersed polyolefin,
  - B) at least one dispersing component,
  - C) at least one carrier medium and
  - D) at least one compound having a dielectric constant greater than or equal to 9,

10 this compound being water, a glycol, an amine, a halogenated hydrocarbon, a ketone and/or an alcohol.

- 2. Polymer dispersion according to Claim 1, characterized in that the component B) represents a copolymer which comprises one or more blocks A and one or more blocks X, the block A representing olefin copolymer sequences, hydrogenated polyisoprene sequences, hydrogenated copolymers of butadiene/isoprene or hydrogenated copolymers of butadiene/isoprene and styrene, and the block X representing polyacrylate-, polymethacrylate-, styrene-,  $\alpha$ -methylstyrene [sic] or N-vinyl-heterocyclic sequences and/or sequences of mixtures of polyacrylate-, polymethacrylate-, styrene-,  $\alpha$ -methylstyrene [sic] or N-vinyl-heterocycles.
- 3. Polymer dispersion according to Claim 1 or 2, characterized in that the component B) is obtainable by graft copolymerization of a monomer composition comprising (meth)acrylates and/or styrene compounds onto polyolefins according to component A).

4. Polymer dispersion according to Claim 3, characterized in that a monomer composition is used, comprising one or more (meth)acrylates of the formula (I)

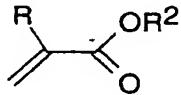
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in which R denotes hydrogen or methyl and R<sup>1</sup> denotes hydrogen or a linear or branched alkyl radical having 1 to 40 carbon atoms,

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and/or one or more (meth)acrylates of the formula (II)

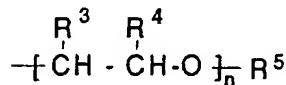


(II),

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in which R denotes hydrogen or methyl and R<sup>2</sup> denotes an alkyl radical substituted by an OH group having 2 to 20 carbon atoms or denotes an alkoxyLATED radical of the formula (III)

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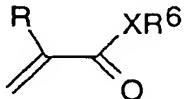
(III),

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in which R<sup>3</sup> and R<sup>4</sup> independently represent hydrogen or methyl, R<sup>5</sup> represents hydrogen or an alkyl radical having 1 to 40 carbon atoms and n represents an integer from 1 to 90,

and/or one or more (meth)acrylates of the formula (IV)

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(IV),

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in which R denotes hydrogen or methyl, X denotes oxygen or an amino group of the formula -NH- or -Nr<sup>7</sup>-, in which R<sup>7</sup> represents an alkyl radical having 1 to 40 carbon atoms, and R<sup>6</sup> denotes a linear or branched alkyl radical substituted by at least one -NR<sup>8</sup>R<sup>9</sup> group and having 2 to 20, preferably 2 to 6, carbon atoms, R<sup>8</sup> and R<sup>9</sup>, independently of one another, representing

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hydrogen, an alkyl radical having from 1 to 20, preferably from 1 to 6 [lacuna] or in which R<sup>8</sup> and R<sup>9</sup>, including the nitrogen atom and optionally a further nitrogen or oxygen atom, form a 5- or 6-membered ring which may optionally be substituted by C<sub>1</sub>-C<sub>6</sub>-alkyl.

10 5. Polymer dispersion according to Claim 2, 3 or 4, characterized in that a monomer composition which comprises dispersing monomers is used in the grafting reaction.

15 6. Polymer dispersion according to any of Claims 2 to 5, characterized in that the weight ratio of the blocks A to the blocks X is in the range from 20:1 to 1:20.

20 7. Polymer dispersion according to one or more of the preceding claims, characterized in that the component A) comprises one or more olefin copolymers, hydrogenated polyisoprene, hydrogenated copolymers of butadiene/isoprene or hydrogenated copolymers of butadiene/isoprene and styrene.

25 8. Polymer dispersion according to one or more of the preceding claims, characterized in that the component C) is a nonionic surfactant.

30 9. Polymer dispersion according to Claim 8, characterized in that the nonionic surfactant comprises an ethoxylated alcohol.

35 10. Polymer dispersion according to Claim 9, characterized in that the ethoxylated alcohol comprises from 2 to 8 ethoxy groups, the hydrophobic radical of the alcohol comprising from 4 to 22 carbon atoms.

11. Polymer dispersion according to one or more of the preceding claims, characterized in that the component C) comprises one or more esters.
- 5 12. Polymer dispersion according to one or more of the preceding claims, characterized in that the polymer dispersion comprises at least 20% by weight of the component A).
- 10 13. Polymer dispersion according to one or more of the preceding claims, characterized in that the dielectric constant of the compound according to component D) is greater than or equal to 20.
- 15 14. Polymer dispersion according to one or more of the preceding claims, characterized in that component D) comprises water, ethylene glycol, polyethylene glycol and/or alcohol.
- 20 15. Polymer dispersion according to one or more of the preceding claims, characterized in that the polymer dispersion comprises up to 30% by weight of component B).
- 25 16. Polymer dispersion according to one or more of the preceding claims, characterized in that the polymer dispersion comprises 0.01-15% by weight of compounds according to component D).
- 30 17. Polymer dispersion according to one or more of the preceding claims, characterized in that the polymer dispersion comprises a mineral oil.
- 35 18. Process for the preparation of polymer dispersions according to any of Claims 1 to 17, characterized in that the component A) is dispersed in a solution of components B) with application of shear forces at a temperature in the range from 80 to 180°C.

19. Use of a polymer dispersion according to any of Claims 1 to 17 as an additive for lubricating oil formulations.